AYRA

ERO L90

90 Watt LED movinghead

User manual

Safety precautions

WARNING: This unit may cause serious injury to the eyes when used incorrectly. It is therefore strongly advised to read this user manual carefully, to get familiance yourself with the functions of this device.

WARNING: This unit must be operated by, or under the supervision of an adult. This device is not suitable for children.

WARNING: Do not look directly into the beam from a short distance. This may cause serious injury to the eyes. Ayra is not responsible for any injuries caused by incorrect use of this device.

Installation requirements:
- Always check the power supply to which you want to connect the device. If the voltage requirements do not meet, do not connect the device as this may cause serious damage.
- This device must be installed by a professional technician, in a standing or hanging position. Only use the included mounting bracket if you want to position the unit against a ceiling or truss system.
- When installed in a hanging position above your audience, this unit **MUST** be secured by using a safety cable, capable of holding 10x the weight of this device.
- The unit is designed to be installed with a halfcoupler or G-clamp, by using the included mounting bracket. Direct installation with proper bolts is also possible.
- Make sure there are no flammable objects in the direct environment of the device.
- Do not block the beam-exit and fan.
- Keep a minimum distance of 0.25 meter from any walls to provide sufficient cooling.
- Make sure the beam-exit and fan are not blocked by any objects in the near environment.
- Always use the included power supply. Contact your local dealer for a replacement unit if necessary.

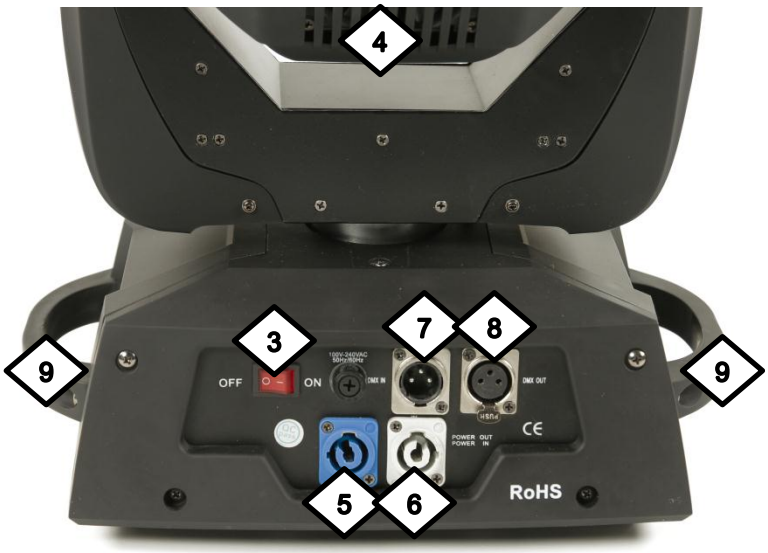
Maintenance and protection
- Keep the unit away from dusty environments, as this may have negative effects on the fan-cooling system and optics. Clean the optics and fan with a small, soft brush and vacuum cleaner when needed. Clean the housing of the unit with a damp cloth. **WARNING:** Always disconnect the unit from the power supply when cleaning the unit. Reconnect the unit only when any moist on the fixture has evaporated completely.
- Do not switch the power on and off frequently, as this may cause serious damage to the unit.
- Avoid heavy shocks and collision during transport and use, as this may cause damage to the LED light source, electronic circuit, optics and housing.
- Keep the device away from moisture, rain, water or any liquids as this may cause a short circuit and/or electric shocks. If any liquid enters the unit, power supply or housing of the unit, disconnect the unit immediately and do not reconnect the power supply. Contact your local dealer or technician to inspect the unit for any damage.

Box contents

Box contents
1x ERO L90
1x power cable
1x omega type bracket
1x safety cable
1x signal cable (XLR – XLR)

Unit and accessory inspection
- Always use the supplied power cable to connect the unit to a power supply. If the cable appears broken or has visible damage, do not use it.
- If the unit is not going to be used for a longer period of time, disconnect it from the power supply and store it in a dust-free environment.
- Always check the unit for possible damage before use. If you suspect that something is wrong with the unit, do not connect it to a power source! When you suspect that your unit is broken or damaged, contact your local dealer or a certified technician to inspect the unit.
- When your device does not generate any light, do not look directly into the lens. When the fixture suddenly produces a beam, it may cause injury to your eyes.

Device overview



1. Beam output
2. Control panel with display and menu-functions
3. On/off switch
4. Fan
5. Power input (twist-lock system)
6. Power link / Power output (twist-lock system)
7. DMX input
8. DMX output
9. Lifting handles

Setting up the unit

The ERO L90 movinghead will reset itself after activating it. There is a possibility that shocking movement and flickering takes place, as the fixture has to calibrate all 0-points for every stepping motor (pan, tilt, gobowheel, colorwheel, prism, etc.). Give the movinghead time to calibrate all stepping motors. When this is finished, the movinghead will turn to its last used function, which is mostly DMX, while displaying the DMX address. The display shows the following codes:

Menu item	Submenu	Feature	Value	Description
1	ADDR	AXXX A001	-	Indicates the starting address while set to DMX mode (A001 is also used for slave devices)
2	PLAY	RUN	MSTR/ALON	Run this fixture as 'master' or 'stand-alone' in automatic mode
		AUDI	MSTR/ALON	Run this fixture as 'master' or 'stand-alone' in music controlled mode
		AUTO	Clos/Hold/Auto/Audi	No DMX status
3	RESE	ALL	-	Reset all stepping motors and return to blackout mode
		SCAN	-	Reset only pan/tilt motors
		COLR	-	Reset only color wheel motor
		GOBO	-	Reset only gobo/gobo rotation motor
		OTHR	-	Reset other motors (prism etc.)
4	RPAN	ON/OFF	-	Reverse pan movement
5	RTLT	ON/OFF	-	Reverse tilt movement
6	FINE	ON/OFF	-	Switch between 8-bit and 16-bit movement
7	MIC	M-XX M-70	-	Microphone sensitivity (for music controlled mode)
8	DISP	VALU	D-XX D-00 DXXX	Display the value of each DMX-channel
		D ON	ON/OFF	Turn the display off after 2 minutes of menu-inactivity
		FLIP	ON/OFF	Flip the display 180 degrees for easy display reading while in hanging position
9	SET	DFSE	ON/OFF	Reset all fixtures to default settings
		FEED	ON/OFF	Pan/tilt automatic error correction ON/OFF
		FANS	AUTO/HIGH/LOW	Fan mode selection
		SAVE	OFF/1-99M 15M	Stand-by mode (Power save mode)
		VER	V1.0 – V9.9	Software version
		FIX	CODE	CXXX = Fixture code (Code = C050)
			CH01 – CHXX	XXXX (-128 – 127), Motor fix
10	Edit	SEPR	AUTO IP01 – IP07	Select program to be edited
		STEP	S-01 – S-48	Select step to be edited
		SCXX	C-01 – C-XX (with value 0-255 per channel)	Edit the channels and values of each scene
			TIME (XXX, value 001 – 999)	Set the time for each scene
			CEDT ON/OFF	Edit program with controller
		REC.	RE.XX	Auto save function
		RUN	ON/OFF	Program test function

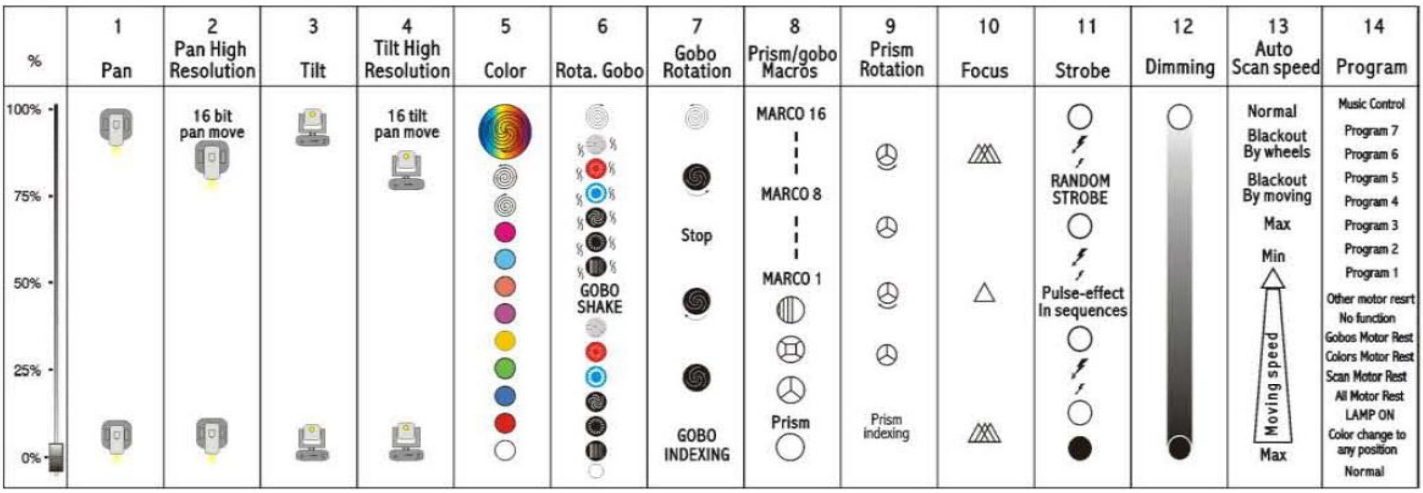
Working modes:

The ERO L90 movinghead is equipped with several working modes, which makes it possible to use the fixture for simple events (such as tradeshows or diners), but also for advanced purposes, such as festivals, clubs and big events.

- Stand alone mode:
  - Automatic mode: The fixture will run one of the internal programs on a certain pre-defined speed
  - Music controlled mode: The fixture will run one of the internal programs to the beat of the music, with a pre-defined microphone sensitivity.

- Master/Slave mode:
  Several fixtures are connected with XLR – XLR cables, but without the use of a DMX-controller. The first fixture in line is the master which will run one of the internal programs on a set speed or music controlled, while the other connected fixtures will mimic the first fixture, thus creating synchronized light shows.

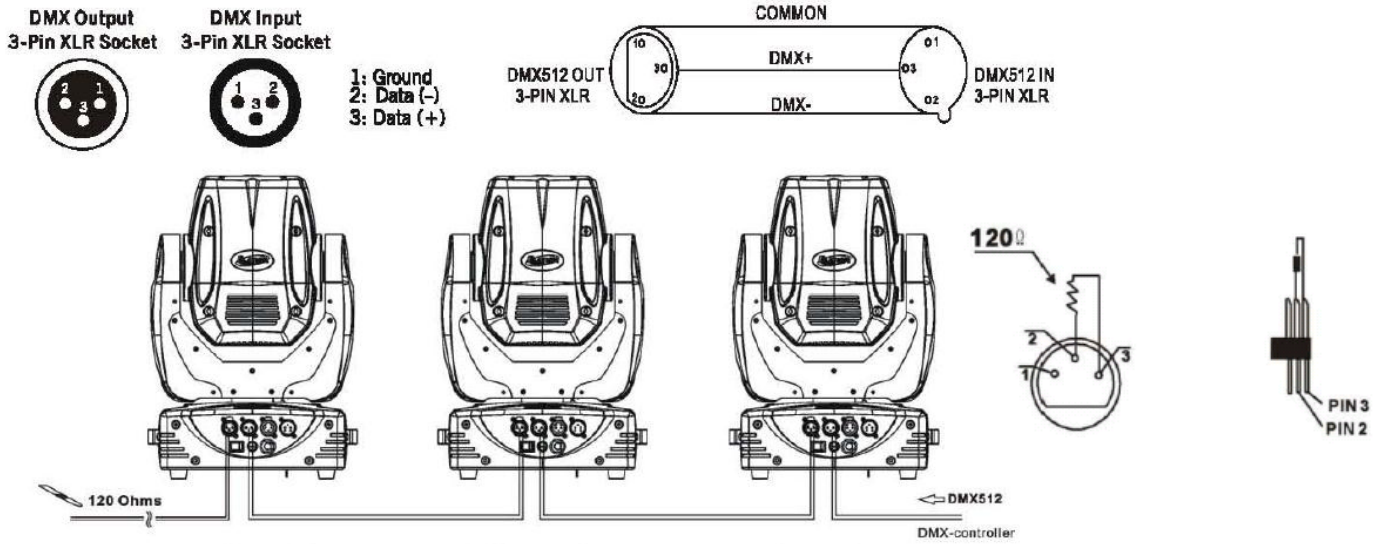
- DMX mode:
  Control the fixture with a standard DMX controller or DMX software. With 14 DMX-channels you have full control over the several features that the ERO L90 has to offer:



Channel 1: Pan
Channel 2: 16-bit Pan (fine)
Channel 3: Tilt
Channel 4: 16-bit Tilt (fine)
Channel 5: Color wheel
Channel 6: Rotatable gobo's
Channel 7: Gobo rotation speed and direction
Channel 8: Rotatable prisms and macro's
Channel 9: Prism rotation speed and direction
Channel 10: Motorized focus
Channel 11: Strobe (0-13 Hz), Shutter close/open, random strobe
Channel 12: Dimmer control (0-100%)
Channel 13: Speed control (pan/tilt movement, blackout selection)
Channel 14: Special (internal program control triggering, lamp on, motor reset, lamp switch off)

Channel	Function	Value	Description
1	Pan	0-255	Pan movement
2	Pan fine	0-255	Pan fine movement
3	Tilt	0-255	Tilt movement
4	Tilt fine	0-255	Tilt Fine movement
5	Color Wheel	0-14	Open/white
		15-29	Color 1
		30-44	Color 2
		45-59	Color 3
		60-74	Color 4
		75-89	Color 5
		90-104	Color 6
		105-119	Color 7
		120-127	Color 8
		128-189	Color wheel rainbow forward (Slow – Fast)
		190-193	No color wheel rainbow effect
		194-255	Color wheel rainbow reverse (Slow – Fast)
6	Rotating gobo's	0-9	Open
		10-19	Rotating Gobo 1
		20-29	Rotating Gobo 2
		30-39	Rotating Gobo 3
		40-49	Rotating Gobo 4
		50-59	Rotating Gobo 5
		60-69	Rotating Gobo 6
		70-79	Rotating Gobo 7
		80-95	Rotating Gobo Shake 1
		96-111	Rotating Gobo Shake 2
		112-127	Rotating Gobo Shake 3
		128-143	Rotating Gobo Shake 4
		144-159	Rotating Gobo Shake 5
		160-175	Rotating Gobo Shake 6
		176-191	Rotating Gobo Shake 7
		192-155	Rotating Gobo wheel continuous rotation
7	Gobo rotation	0-127	Gobo indexing
		128-189	Gobo rotation forward (Slow – Fast)
		190-193	No rotation
		194-255	Gobo rotation backwards (Slow – Fast)
8	Prism and prism/gobo macro's	0-31	Open
		32-63	5-facet prism
		64-95	Infinite (3D) prism
		96-127	Frost
		128-135	Macro 1
		136-143	Macro 2
		144-151	Macro 3
		152-159	Macro 4
		160-167	Macro 5
		168-175	Macro 6
		176-183	Macro 7
		184-191	Macro 8
		192-199	Macro 9
		200-207	Macro 10
		208-215	Macro 11
		216-223	Macro 12
		224-231	Macro 13
		232-239	Macro 14
		240-247	Macro 15
		248-255	Macro 16

9	Prism rotation	0-127	Prism indexing
		128-189	Prism rotation forward (Slow – Fast)
		190-193	No rotation
		194-255	Prism rotation backward (Slow – Fast)
10	Focus	0-255	Continuous adjustment (Far – Near)
11	Shutter/Strobe	0-31	Shutter closed
		32-63	No function (shutter open)
		64-95	Strobe effect (slow-fast)
		96-127	No function (shutter open)
		128-159	Pulse-effect in sequences
		160-191	No function (shutter open)
		192-223	Random strobe (Slow – Fast)
		224-255	No function (shutter open)
12	Dimmer	0-255	Dimmer 0-100%
13	Pan/tilt movement speed	0-225	Maximum to minimum speed
		226-235	Movement trigger blackout
		236-245	Wheel changes trigger blackout
		246-255	No function
14	Reset functions and internal prorgrams	0-39	No function
		40-79	Macro
		80-84	All motors reset
		85-87	Scan motors reset
		88-90	Color motors reset
		91-93	Gobo motors reset
		94-96	No function
		97-99	Other motors reset (prism, focus)
		100-119	Internal program 1
		120-139	Internal program 2
		140-159	Internal program 3
		160-179	Internal program 4
		180-199	Internal program 5
		200-219	Internal program 6
		220-239	Internal program 7
		240-255	Auto program, music-activated



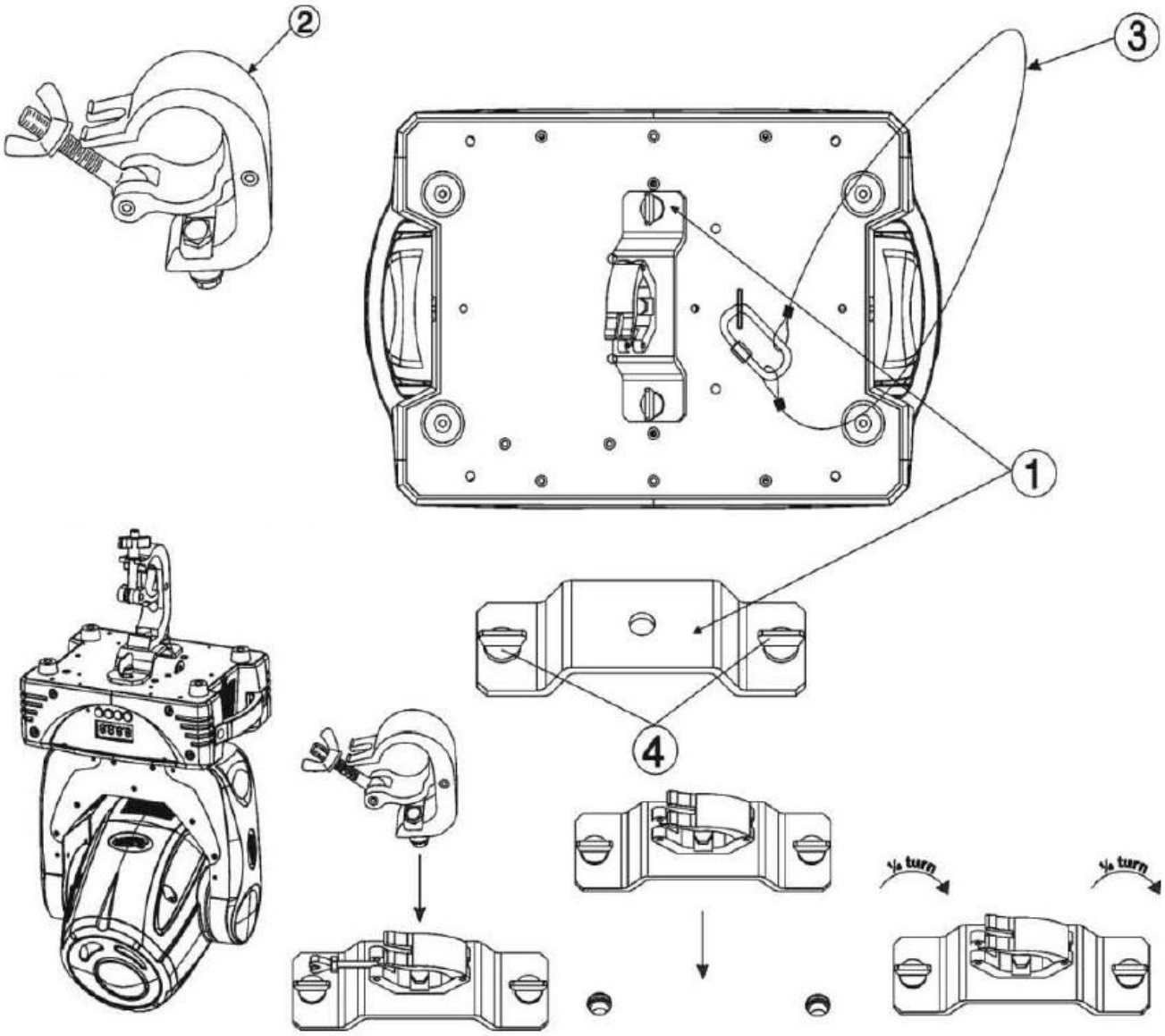
To connect several ERO L90 movingheads in DMX mode, use standard XLR – XLR cable and apply a DMX-terminator at the end of the DMX-chain. A DMX terminator is a standard XLR connector, with a typical 120 Ohm resistor between pin 2 and 3, to exterminate the signal. This prevents reflections in your signal, which may cause flickering and unwanted behavior from your intelligent lighting fixtures.

Installation and maintenance

Mounting bracket assembly
The ERO L90 movinghead comes with an included Omega-type bracket, which is suitable for most triggerclamps, halfcouplers ans G-clamps. Before assembling the bracket, always mount your hooks first.

After mounting the hooks to your Omega-type bracket, carefully place the contact points of the bracket on each slot, provided at the bottom of the unit. Tighten the quick-lock fastners and check if the Omega-type bracket is mounted properly.

See the illustrations below for more information.



1. Omega-type bracket
2. Clamp (Triggerclamp), not included
3. Safety cable
4. Quick-lock fastner

Cleaning
Make sure to clean the exterior of the unit frequently, as the build-up of dust and dirt may have negative effects on the cooling and optics of the fixture.

The exterior (plastic parts) of the unit can be cleaned with a damp cloth. The optics of the fixture can be cleaned with a clean cloth or paper towel, with the addition of a non-aggressive glass cleaning solution.

Clean the fan outlet and the cooling vents with a small brush, while using vacuum cleaner suction to remove any loose dust and/or dirt.

Clean the exterior of this fixture once a month. When using this fixture intensively, the frequency of maintenance needs to be increased.

Transport
When using this fixture in mobile setups, provide sufficient protection during transport. Use the original packaging of this unit, or use a professional flightcase with proper foam inlay. This way the electronics, optics and housing are protected against severe shocks, exterior damage and failing electronics.

Make sure the moving parts of the movinghead (pan and tilt motors) are secured during transport. Shocks and fierce movement of the pan and tilt stepping motors may cause permanent damage.

After use, let the unit cool down for at least 10 minutes. When using DMX, use the 'black out' option on your DMX controller. This way the unit is positioned in a static stand-by mode and the internal fan is able to cool down the internal electronics, which decreases the chance of damage during transport.

Replacing the internal fuse
First check whether a failing power supply may be the cause of malfunction. When you suspect that the internal fuse is broken, the fuse can be replaced by removing the fuse cover, located directly below the power inlet.
WARNING: Before changing the fuse, always disconnect the fixture from your wall outlet or any other power supply to prevent electric shocks.
Always replace a broken fuse with a fuse that has the same type and rating. After the fuse has been replaced, always close the fuse-cover. Reconnect the fixture to your power supply and check whether the problem is solved. When this does not solve your problem, contact your local dealer for help.
IMPORTANT: A spare fuse is located inside a special compartiment of the fuse holder.

Spare parts
This unit has no user serviceable parts inside. When any damage to internal components occurs, contact your local dealer or a specialized technician in order to repair the fixture.

Checkup
To prevent dangerous situations, make sure your fixture is in optimal condition before using it. Check your fixture frequently by using the following checklist:
- All screws must be mounted tightly.
- Check all screws and metal parts for corrosion. No visible corrosion may be present.
- The exterior of your fixture must be in optimal condition. Check your fixture for dents, cracks or missing parts.
- Your installation spot must be in optimal condition. Check your installation spot for corrosion, cracks, dents and strength.
- Electrical components (connectors and cables) must be in optimal condition. Any form of damage

(cuts, exposed wire cores or any other visual deformities should not be present.

If any visual or mechanical damage is detected, contact your local dealer or a specialized technician. Do not use a damaged or failing fixture.

Connectors and wiring schematics:

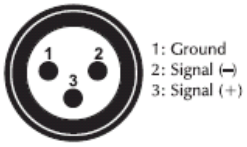
DMX-connections:

DMX-output

XLR mounting-socket:

DMX-input

XLR mounting-plug:



Electrical wiring:

Cable	Pin	International
Brown	Live	L
Blue	Neutral	N
Yellow/Green	Earth	⏚

Technical specifications

- 90 Watt LED spot movinghead
- 50.000h lifespan
- low power consumption
- 630 degrees pan
- 270 degrees tilt
- Pan/tilt positioning memory with auto-correct functionality
- 1 color wheel with 7 colors + open, rainbow effect in both directions, with variable speed
- 1 rotating gobo wheel with 7 rotating, interchangeable gobo's + open (3 metal gobo's and 4 glass gobo's), with variable rotating gobo speed and direction, gobo indexing, rotating gobo indexing
- 1 rotatable prism wheel with one 5-facet prism, one 3D prism, one Frost prism, with speed adjustment and direction
- infinite motorized focus with 15 degrees projection angle
- 0-100% dimmer with 1-18Hz strobe function
- LED shutter with variable speed, random strobe and pulse effects
- DMX-512, Master/Slave, Sound activated and Automatic mode
- maximum ambient temperature: 45 degrees Celsius
- large LCD display with blue backlight with flip function for easy reading in hanging position

- input voltage: 90 – 240V AC, 50/60 Hz
- LED quantity: 1x 90 Watt high power LED light source
- 14 DMX-channels
- power consumption: 120 Watt
- dimensions: 360 x 280 x 480 mm
- packing dimensions: 525 x 350 x 410 mm
- net weight: 12 kg
- gross weight: 14 kg

Connectors:
- DMX: 3p XLR male and female
- Power: IEC power connector

Included accessories:
- Power cable with Shucko & IEC connectors
- Mounting bracket (omega-type)
- safety cable
- signal cable